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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,430	10/31/2003	John Deryk Waters	300204380-2	7754

22879 7590 05/17/2006

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EXAMINER	
SHIMIZU, MATSUICHIRO	
ART UNIT	**PAPER NUMBER**
2612	

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/697,430	WATERS, JOHN DERYK	
	Examiner	Art Unit	
	Matsuichiro Shimizu	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5 and 7-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *12,14,15 and 18* is/are allowed.

6)☒ Claim(s) *1,3-5,7-11,13,16 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

The examiner acknowledges canceled claims 2 and 6, and currently amended claims 1, 3-4, 7, 13 and 16-17.

Response to Arguments

Applicant's arguments with respect to claims 1, 3, 7-9,11, 13 and 16-17 have been considered but are moot in view of the new grounds of rejection provided by new prior art of Isaacson.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 7-9,11, 13 and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Isaacson et al. (5,708,419).

Regarding claims 1, 7, 13 and 16, Isaacson discloses RFID tag (col. 3, lines 25-36) as a memory tag wherein data transmission is provided by two resonant frequencies generated with Cmod alone or Cmod and Cant combined, wherein these two binary states are controlled by switching-off of GND within IC 14 in accordance with data to be transmitted (col. 4, lines 30-62).

Furthermore, Isaacson discloses passive power supply by the reader via rectified voltage across Cant (col. 4, lines 41-49).

Regarding claims 11 and 17, Isaacson discloses RFID tag (col. 3, lines 25-36) as a memory tag according to claims 7 and 16 wherein the first frequency is Cant frequency and the second frequency is the combination frequency of Cmod and Cant (Fig. 1, col. 3, lines 49-62).

Regarding claim 8, Isaacson discloses RFID tag (col. 3, lines 25-36) as a memory tag according to claim 7 comprising passive power supply (col. 4, lines 41-49).

Regarding claims 3 and 9, Isaacson discloses RFID tag (col. 3, lines 25-36) as a memory tag according to claims 1 and 7 wherein resonant part 12 comprises inductance and parallel capacitances Cmod and Cant controlled by IC 12 in accordance to binary data transmission (Fig. 1) to reader.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4-5, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isaacson in view of Ma et al. (4,718,117).

Regarding claims 4,10, Isaacson teaches a variable capacitance in association with parallel capacitances Cmod and Cant controlled by switch in IC 12 in accordance to binary data transmission (Fig. 1) to reader.

But Isaacson is silent on a control line is connected to the cathode of the varactor diode to vary the reverse bias voltage of the varactor diode.

However, Ma teaches, in the art of capacitance device, a control line associated with input terminal line Vt1 (Fig. 8) is connected to the cathode associated with input terminal line Vt2 of the varactor diode to vary the reverse bias voltage of the varactor diode (col. 7, lines 52-66, varactor 57 in reverse bias voltage supply) for the purpose of providing smaller size device. Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to include a control line is connected to the cathode of the varactor diode to vary the reverse bias voltage of the varactor diode in the device of Isaacson because Isaacson suggests a variable capacitance in association with parallel capacitances Cmod and Cant controlled by switch in IC 12 in accordance to binary data transmission (Fig. 1) to reader and Ma teaches

a control line is connected to the cathode of the varactor diode to vary the reverse bias voltage of the varactor diode for the purpose of providing smaller size device.

Regarding claims 5, Isaacson teaches a memory tag according to claim 4 wherein the resonant circuit part comprises a first capacitor connected in parallel with the inductor (Fig. 1, note; resonant circuit 12).

Allowable Subject Matter

Regarding claims 12, 14-15 and 18, the prior arts fail to teach or fairly suggest

a demodulator operable to compare a reference signal corresponding to the driving signal generated by the frequency source and

a reflected signal from the resonant circuit part and generate an output depending on the relative phase of the reference signal and the reflected signal,

the demodulator comprising a multiplier operable to multiply the reference signal and the reflected signal and a low pass filter to pass a signal corresponding to the relative phase.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In

no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matsuichiro Shimizu whose telephone number is 571-272-3066. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber, can be reached on 571-272-7308. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3068.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703-305-8576).

Matuichiro Shimizu
May 15, 2006

WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600